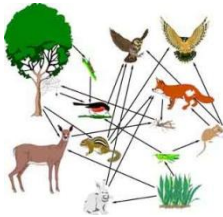


Science 7 Final Exam Review

The following content will help you review for your Science 7 Exam. The page numbers are there to help you, but you may also use your labs, activities, and projects that we've done to help you explain the answers.



Interactions and Ecosystems:

1. What do the words biotic and abiotic mean? Give an example of each (Pg. 9)
2. What are the basic needs of all living things? Why do living things need each of these things (Pg. 12-13)?
3. Define and give an example of each of the following types of relationships: parasitism, mutualism, commensalism (Pg. 16-17)?
4. What is 1 positive and 1 negative effect that humans can have on their environment (Pg. 20-23)?
5. Define and give an example of a decomposer (Pg. 31).
6. What do plants need in order to photosynthesize? What do they make during photosynthesis (Pg. 30)?
7. Define the following terms: producer, consumer, herbivore, carnivore, omnivore (Pg. 35).
8. Show me a simple food chain that shows an energy source, producer, herbivore and carnivore (you can use words). How is a food web different from a food chain (Pg. 35-42)?
9. Does the number of organisms increase or decrease as you move up a food chain? Explain why (Pg. 36-38).
10. Draw/explain the water cycle (Pg. 45).
11. Draw/explain the carbon cycle (Pg. 46).
12. What is competition? Give an example using organisms from the prairies (Pg. 57).
13. What is bioinvasion (Pg. 56)?

14. Explain how predator and prey populations move up and down in relation to one another (Pg. 60).
15. Do toxin levels move up or down as you move through the food chain (Pg. 67-68)?
16. Explain two situations where scientific knowledge is limited and has not been able to be used to solve a problem (Pg. 76-77).
17. What is an ecological footprint? How can we reduce our ecological footprints (Pg. 78-82)?



Plants for Food and Fibre

1. Name and describe the parts of all seed plants (Pg. 101).
2. What is transpiration, and how does it happen (Pg. 103)?
3. Where do plants get their energy (Pg. 104)?
4. Draw the life cycle of a seed plant (Pg. 110).
5. Explain the differences between diffusion and osmosis (Pg. 106-107).
6. Name and explain the 3 methods of natural vegetative reproduction (Pg. 114).
7. Name and explain 2 ways of technologically producing plants (Pg. 115).
8. Name three things that plants can provide for us (Pg. 131)?
9. What is a living resource? Explain how humans have changed some of the living resources over time (Pg. 133).
10. What is humus, and how does it help soil (Pg. 141)?
11. Draw and fill in the following chart (Pg. 141-142).

TYPE OF SOIL	CHARACTERISTICS OF SOIL
Sandy Soil	
Clay Soil	
Loam Soil	

12. What is fertilizer? What is the difference between chemical and organic fertilizer? What is an advantage of using fertilizer? What is a disadvantage of using fertilizer (Pg 144)?
13. What is irrigation? What are some of the advantages to using irrigation? What are some of the disadvantages to using irrigation (Pg. 145)?
14. What is meant by "clearing the land"? How is this beneficial? How is it harmful (Pg.145)?

15. Draw a diagram to explain "crop rotation" (Pg. 147).
16. What is a hydroponic system (Pg. 155)?
17. What is meant by the term yield (Pg. 151)?
18. Name and explain two methods of creating crops that have specific traits (Pg. 158-159).
19. List and explain 2 methods of controlling pests and weeds (Pg. 160-162).
20. Define the term sustainable, and explain how the term relates to plant care and management (Pg. 166).



Heat and Temperature:

1. Define the following terms: freezing point, melting point, boiling point and condensation point (Pg. 192).
2. Is heat energy added or taken away when the following happens (Pg. 191)
 - Boiling occurs
 - Freezing occurs
 - Melting occurs
 - Condensation occurs
3. List and explain the four parts of the Particle Model of Matter (Pg. 193).
4. Use diagrams to show the space between particles in a solid state, liquid state, and gas state (Pg. 194).
5. Please complete the following chart: (Use Page 194 to help you).

State of Matter	How the Particles are Attached	Shape and Volume	Movement	Kinetic Energy (Energy of Movement) Is it high, medium)

6. What happens to the speed of particle movement and the amount of space between the particles when heat is added to a substance (Pg. 196)?

7. If you have a pot of water that is 95 degrees and a cup of water at the same temperature, which contains more thermal energy? Explain why (Pg. 198).
8. Do solids expand or contract when they are heated? How about liquids? How about gases? Explain why this happens to each state of matter using what you know about particles (Pg. 205-206).
9. Define the words conductor and insulator. Give 3 examples of each (Pg. 211).
10. Explain what happens during conduction using a diagram (Pg. 209).
11. Explain what happens during convection using a diagram (Pg. 213).
12. Explain what happens during radiation using a diagram (Pg. 217).
13. Describe what colour you would wear if you wanted to stay cool on a hot summer day...use the words absorb and reflect in your answer (Pg. 220).
14. What is the difference between a renewable and non-renewable energy resource? Give an example of each (Pg. 239).
15. What are three ways that you can reduce the amount of energy that you use (Pg. 246-248)?



Structures and Forces

1. Explain and give examples of the three basic structural forms (Pg. 266-267).
2. When we build a structure, we look at the function, the design and aesthetics. What is meant by each of these terms and why are they important (Pg. 269-275)?
3. What is a Newton (Pg. 284)?
4. The effect of a force on a structure depends on 3 things. What are they (Pg. 281-282)?
5. What is "centre of gravity" and how does it affect the balance of a structure (Pg. 286)?
6. What are two ways you could make a structure more balanced (Pg. 287)?
7. What is the difference between a static load and a dynamic load? Give an example of each (Pg. 288-289).

8. Draw a diagram of each of the following types of bridges: beam, truss, arch, suspension. What is one positive aspect of each bridge (Pg. 290-291)?
9. What are performance requirements and why would they be important (Pg. 294)?
10. What is an internal force (Pg. 296)?
11. List and explain the three types of internal forces. You may use a diagram if you like (Pg. 297).
12. What are complementary forces (Pg. 298)?
13. Why might you use triangles to build instead of square shapes (Pg. 301)?
14. Draw a beam that is supported on both ends and label where the tension and compression would be. How does this change with a cantilever (a beam supported at only one end) (Pg. 302-303)?
15. What is an arch? Why are they used so often in building (Pg. 302)?
16. What is the difference between structural stress, fatigue and failure (Pg. 303)?
17. What is a fixed joint? What is a mobile joint? Give an example of each of them. When would you use each of them (Pg. 314-315)?
18. What does "margin of safety" mean? How would we test and monitor the margin of safety of a roller coaster? What are three environmental factors that we have to keep in mind when looking at the margin of safety of a structure (Pg. 326-327)?
19. Explain four ways to strengthen an existing material (Pg. 330-332).



Unit E – Planet Earth

1. Why are models important when studying the Earth (Pg. 353)?
2. Draw a diagram that shows the inside of the Earth. Label each of the following parts on your diagram: Inner Core, Outer Core, Mantle and Crust. (Pg. 355).
3. Explain how an earthquake happens using the words fault, seismic waves and epicentre (Pg. 358-359).
4. How is the strength of an earthquake measured (Pg. 359)?

5. Explain how a volcano erupts? Use the terms pressure, upward, lava, magma and ash (Pg. 360).
6. Define the following terms: weathering, erosion and deposition (Pg. 363).
7. What is the difference between mechanical weathering, chemical weathering, and biological weathering (Pg. 363-364)?
8. What is sediment and how is it carried (Pg. 365)?
9. What are fluvial landforms and give an example (Pg. 365)?
10. What are glaciers and what happens as they flow (Pg. 366)?
11. What is bedrock (Pg. 366)?
12. What are five properties that scientists can use to identify minerals (pg. 371-372)?
13. Name the three types of rock and tell how each is formed (Pg. 377-380).
14. What is the Precambrian Shield (Pg. 387)?
15. Who was Wegener and what was his hypothesis? Did others believe him? What evidence did he have to support his ideas (Pg. 393-394)?
16. What is the Theory of Plate Tectonics (Pg. 398)?
17. What is the difference between a diverging boundary, a converging boundary and a transform boundary (Pg. 398-400)?
18. Define the terms syncline and anticline. Explain how they relate to the building of mountains (Pg. 404).
19. What is an era and how do fossils tell us about the eras that have been part of our history (Pg 410-419)?

